

# STRUCTURES AT FLOOD RISK (SAFR) WEB MAPPING APPLICATION USER GUIDE

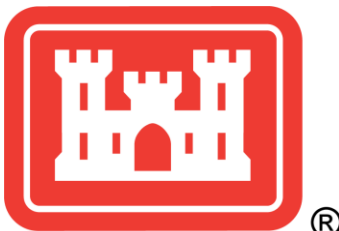
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**I ILLINOIS**

Illinois State Water Survey

PRAIRIE RESEARCH INSTITUTE



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## **Accessing SAFR**

SAFR is a web mapping application developed to show flood risk at the structure level in Illinois. Currently it is invite-only and intended for community officials or those who work in the floodplain or emergency management realm. The application is password protected as it is not meant for general public access. A username and password can be requested using the contact information at the end of this document. SAFR can be accessed at the link below, though the username and password will still be required:

[Structures at Flood Risk \(SAFR\)](#)

## **Uses of SAFR Data**

The Flood Risk Assessment (FRA) datasets available on SAFR can help to guide community mitigation efforts by quantifying future potential flood losses. The data helps communities better understand their local flood risk and associated impacts, and to then make data-driven decisions about mitigation strategies. This data can be used to identify where flood mitigation actions, such as property buyouts, may produce the highest return on investment.

Data from SAFR is useful in the development of natural hazard mitigation plans. These plans are required for a county or municipality to be eligible for many FEMA grants for mitigation measures.

The SAFR web application allows users to view and query individual structures to better understand the structure's risk of being flooded and the specific damages and loss that would be experienced. The intended audiences for the website are state and local officials and agency staff and, in particular, floodplain managers, mitigation officers, and city planners.

A Storymap has also been developed to provide an overview to the SAFR project. This Storymap can be accessed at the link below:

[SAFR Storymap](#)

Additional information about the SAFR data collection process, the hydraulic modeling, economic evaluations, and all other analysis can be found in individual reports written for each project (see Frequently Asked Questions/Project Information).

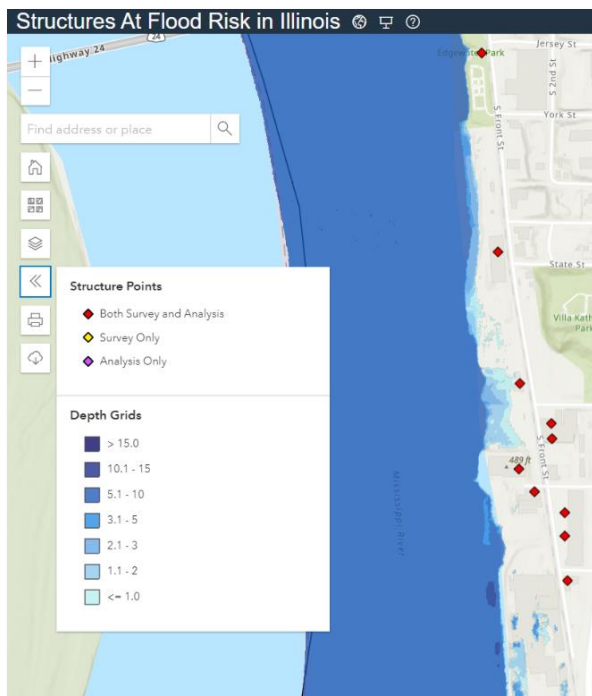
## Available Data

### Structure Points

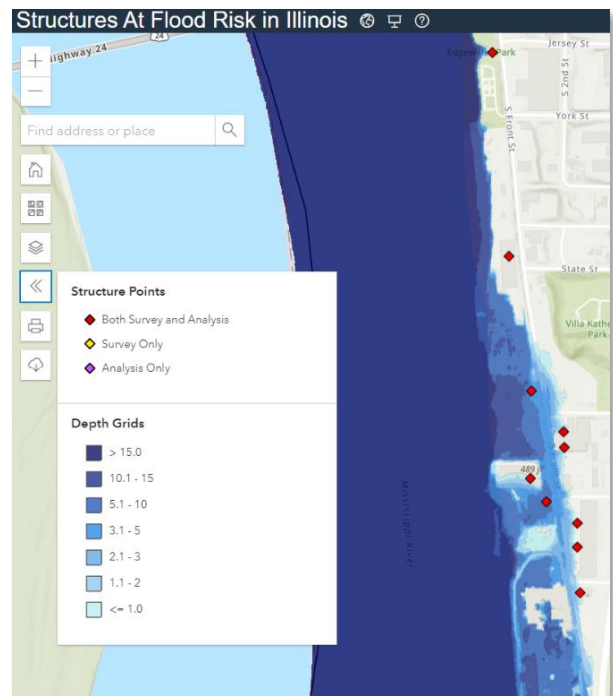
Points representing structures in the building inventory that was compiled during the FRA process. Each point contains characteristics of the structure (occupancy, square footage, etc.) and the level of flood risk the structure is exposed to.

### Flood Depth Grids

Geographic Information System (GIS) raster files that represent the estimated depth of analyzed flood events used in the flood risk assessment. Usually this consists of the 10%, 4%, 2%, 1%, and 0.2% annual chance flood events. The flood grids show the extent of each projected flood event and which areas and structures might be impacted.



10% (10-yr) Flood Grid

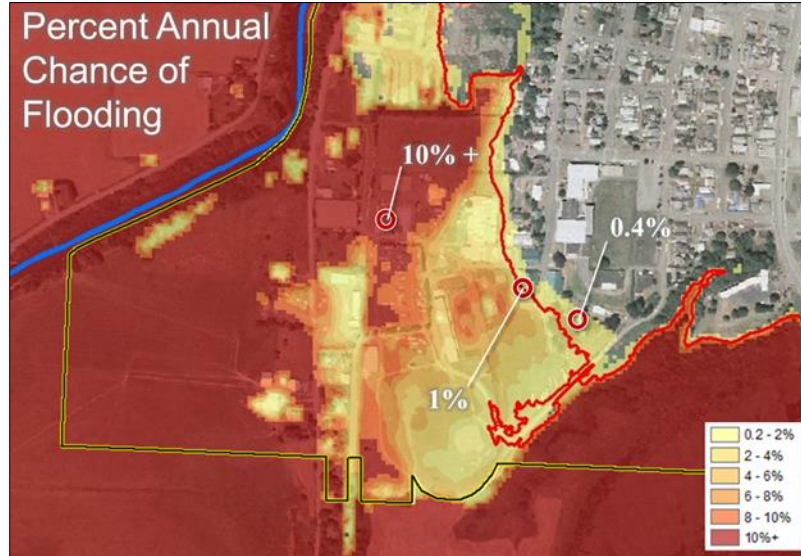


0.2% (500-yr) Flood Grid

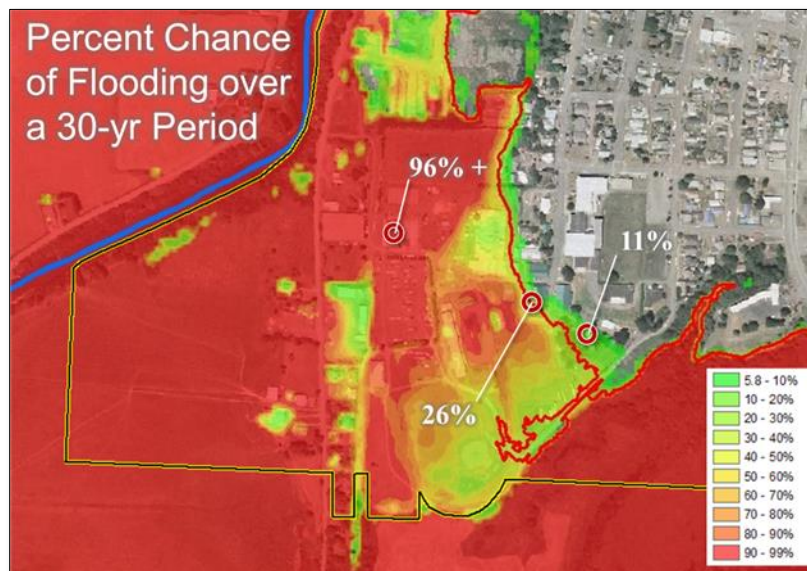
## Analysis Grids

There are two different raster analysis grids that are produced for a flood risk assessment and are available on SAFR:

- **Percent Annual Chance of Flooding**
  - Shows the percent chance of flooding at a given point in any given year.



- **Percent Chance of Flooding over a 30-year Period**
  - This represents the percent chance of flooding at least one time during a 30-year period for a given location within the mapped floodplain.



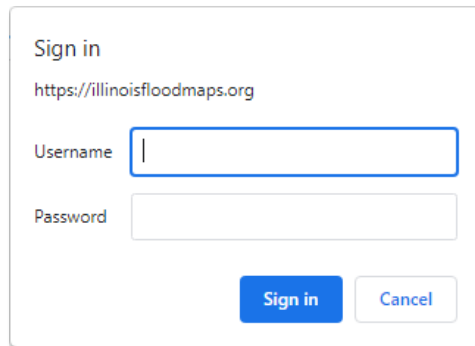
## National Flood Hazard Layer (NFHL)

The NFHL is a dataset containing regulatory data made available by FEMA that was included in the creation of FEMA Digital Flood Insurance Rate Maps (DFIRMs). For the SAFR web mapping application, this includes the S\_Fld\_Haz\_Ar layer showing the regulatory floodplains used in the DFIRMs.

## Components of SAFR Web Map

### Splash Screen

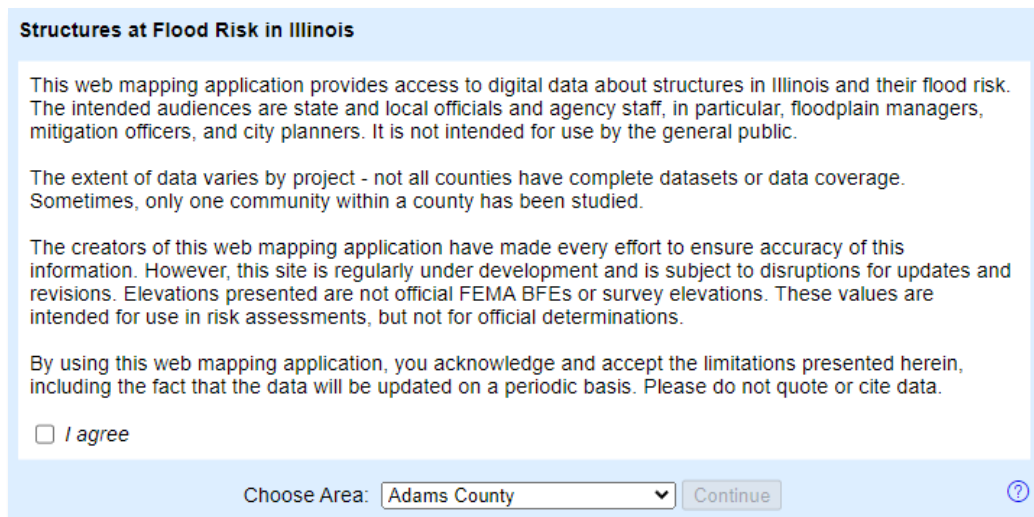
When first visiting SAFR there will be a prompt to enter a username and password. This is not publicly available but can be requested using the contact info at the end of this document. Some users have experienced a “401 – Unauthorized” error when trying to access SAFR. This is usually caused by Ad/popup blockers that stop the login splash screen from appearing. Possible solutions are to turn off any adblockers or to try a different internet browser.



A sign-in dialog box with the following elements:

- Title: Sign in
- URL: https://illinoisfloodmaps.org
- Username field: A text input field with a blue border and a vertical cursor.
- Password field: A text input field with a light gray background.
- Buttons: A blue "Sign in" button and a light gray "Cancel" button.

After entering the username and password a splash screen will pop up showing a disclaimer and giving the option to choose the area of interest. Agree to the disclaimer by checking the box and choose the area of interest from the dropdown menu.



**Structures at Flood Risk in Illinois**

This web mapping application provides access to digital data about structures in Illinois and their flood risk. The intended audiences are state and local officials and agency staff, in particular, floodplain managers, mitigation officers, and city planners. It is not intended for use by the general public.

The extent of data varies by project - not all counties have complete datasets or data coverage. Sometimes, only one community within a county has been studied.

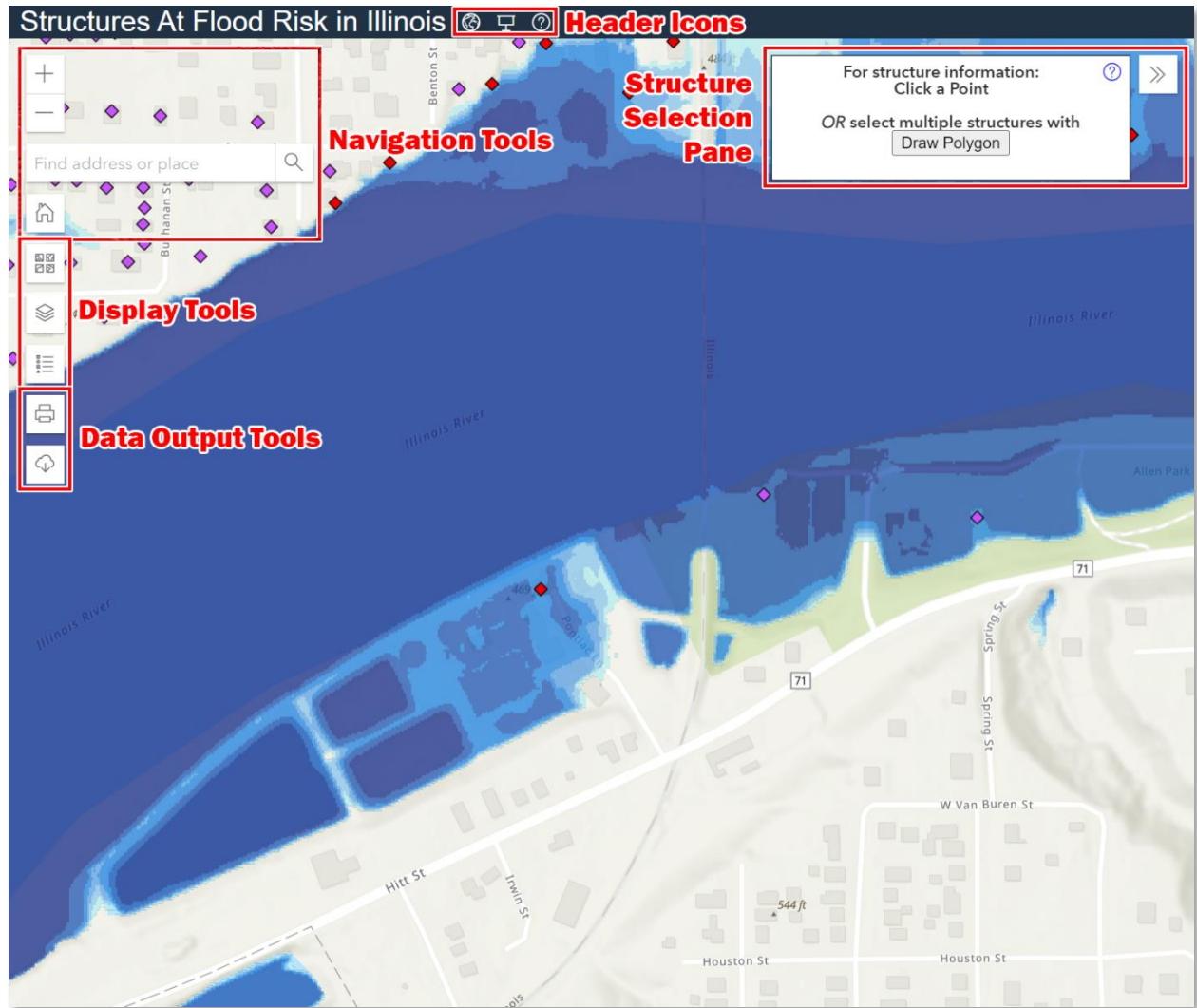
The creators of this web mapping application have made every effort to ensure accuracy of this information. However, this site is regularly under development and is subject to disruptions for updates and revisions. Elevations presented are not official FEMA BFEs or survey elevations. These values are intended for use in risk assessments, but not for official determinations.

By using this web mapping application, you acknowledge and accept the limitations presented herein, including the fact that the data will be updated on a periodic basis. Please do not quote or cite data.

I agree

Choose Area:

Click continue to have access to the web map interface which will be zoomed in on the selected area of interest. Other projects will still be accessible by panning around the web map.



## Header Icons

Once a user has accessed the SAFR web mapping application they will notice two icons at the top of the page:



### Return to Splash Screen:

This icon returns to the initial splash screen where a different project area can be chosen.



### User Guide Video:

This icon links to the SAFR Video User Guide that is hosted on Media Space.



### Frequently Asked Questions (FAQ):

Links to the FAQ page containing useful information on the different aspects of SAFR.

- This icon is also located in several different areas of SAFR and when clicked on will jump to the FAQ for the specific section it is located in.



## Navigation Tools

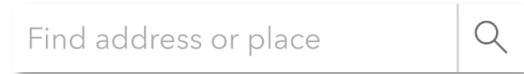


### Zoom:

Zooms in and out on the map.

### Location Search:

Search for specific addresses, cities, or other location data. The tool will autocomplete to assist with search. If the address is found, the map zooms and pans to its location.



### Home:

Returns to the extent of the project area selected in the initial SAFR splash screen.

## Display Tools



### Basemap Gallery:

Selects the map displayed behind the SAFR data.



### Data Layer List:

List of the data layers available to display.



### Legend:

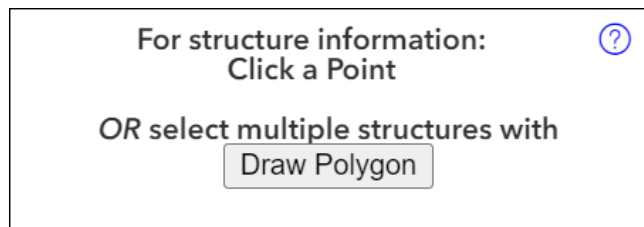
Displays and describes the symbology used for the data layers currently displayed on SAFR.

## Selecting Structures



Structures within the database are shown on the map with diamond-shaped points.

There are two ways to select structures in order to see their data. Selecting a single structure can be done by clicking on the structure of interest. To select multiple structures at the same time, use the "Draw Polygon" button found in the upper right corner of the map to draw a polygon around structures of interest.



## Structure Information Pane

Once a structure is selected the Structure Information Pane will pop up and contains relevant information about the selected structure. The different sections in this pane can be expanded and contracted by clicking on the arrow next to the title. All the of the information detailed here is available for download.

The screenshot displays a web application interface titled "Structures At Flood Risk in Illinois". The interface is divided into several sections:


- Navigation Tools:** Located at the top left, featuring a search bar with the text "Find address or place" and a search icon.
- Display Tools:** A vertical toolbar on the left side containing icons for map navigation and display options.
- Data Output Tools:** A vertical toolbar on the left side containing icons for printing and data export.
- Header Icons:** A row of icons at the top right, including a home icon, a refresh icon, and a help icon.
- Structure Information Pane:** A large panel on the right side, titled "123 Flood St" with "Parcel ID# 123456789". It contains the following information:
  - Property Info:**

Building Value (2019 US\$)	310,063
Stories	1
Area (Sq Ft)	2,050
Foundation Type	Slab
Occupancy Type	Government
  - Flood Risk:**

Annual Percent Chance of Flooding	9.11%
Percent Chance of Flooding w/in 30 Years	94.23%


  


Annual Chance of Flood	Depth from 1st Finished Floor (ft)	Building Damage (%)	Building Losses (2019 US \$)
10%	N/A	N/A	N/A
4%	1.95	9.85	30,540
2%	3.9	11.9	36,890
1%	4.87	14.6	45,270
0.2%	9.87	30.47	94,470
  - Survey Data:** A section at the bottom of the pane with a question mark icon.


- **Create Info Sheet**
  - Creates a one-page map (PDF) for the selected structure that contains the information shown in the Structure Information Pane.
  - If you have selected multiple structures using the polygon feature, you will obtain individual maps for each selection
- **Property Info**
  - Details on the selected structure.
  - Values are color coded based on their data source. The data source color code values can be viewed in the FAQ page by clicking on the  icon and clicking on Property Information.
- **Flood Risk**
  - Contains the following values for each structure derived from the flood depth and analysis grids:
    - Annual Percent Chance of Flooding.
    - Percent Chance of Flooding w/in 30 Years.
    - Depth from 1<sup>st</sup> finished floor.
      - Many of these values will be negative as 1<sup>st</sup> finished floors are often above ground level.
    - Building Damage percent.
    - Building Losses in USD.
- **Survey Data**
  - Surveyed elevations and the year the survey was performed.
- **Survey Photos**
  - Photos of the structures being surveyed.

### Street Address


Parcel ID Number

▼ **Property Info:** 


Building Value (2017 US\$) 	42,495
Stories	1
Area (Sq Ft)	832
Foundation Type	Basement (or Garden Level)
Occupancy Type	Residential


▼ **Flood Risk:** 


Annual Percent Chance of Flooding	2.81%
Percent Chance of Flooding w/in 30 Years	57.51%

Annual Chance of Flood	Depth from 1 <sup>st</sup> Finished Floor (ft)	Building Damage (%)	Building Losses (2017 US \$) 
10%	N/A	N/A	N/A
4%	N/A	N/A	N/A
2%	-1.99	10.05	4,270
1%	-0.84	14.47	6,150
0.2%	4.68	41.41	17,600

▼ **Survey Photos:**

Front	<div style="text-align: center; margin-bottom: 5px;">39</div> 
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▼ **Survey Data:** 

Survey Year 	2018
First Floor Elevation	487.0
Lowest Entry Elevation	487.0
Lowest Entry Ground	487.0
Other Elevation	488.5
Other Elev. Type	Garage - D-Shed

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## Data Output Tools



### Export Map Image

Creates and exports a map using the current extent and data layers that are being viewed in the browser. Options are available to title the map, choose a page size, and choose a file type. Options are listed below:

- Page Size:
  - 8x6" Landscape
  - 6x8" Portrait
  - 11x8.5" Landscape
  - 8.5x11" Portrait
- Image Format:
  - PNG
  - JPG
  - PDF


**Export Map Image** ?

Title:

Page Size:  
  
Format:

---

**Exported Maps**

 [Example.png](#)

Once the preferred options have been selected, click the “Start Image Export” button and a link will be generated at the bottom under “Exported Maps.”

The generated map includes a legend detailing the data displayed. This is a great way to create a quick snapshot that can be used to display and communicate the data contained within the SAFR application.



## Download Data

Allows data to be downloaded from the flood risk assessments hosted on SAFR.

Downloadable data is as follows:

- Structures
  - Can be downloaded either at the project level, or by structures that have been individually selected by the user.
  - To download the project database, select the project of interest from the dropdown menu.
  - Data can be downloaded in the following formats:
    - GIS Shapefile
    - GIS File Geodatabase
      - Includes data dictionary
    - CSV file
- Survey Photos
  - Photos of structures in .jpg file format downloadable at the project level.
- Depth/Analysis Grids
  - Downloadable File Geodatabase at the project level containing:
    - Flood Depth Grids
    - Percent Annual Chance of Flooding Grid
    - Percent Chance of Flooding over a 30-year Period Grid

**Download Data for:** ?

**Structures**

*Survey Photos*

*Depth/Analysis Grids*

Project Database ▾



Adams County ▾

GIS Points (.shp) ▾

## Frequently Asked Questions (FAQ)/Help Page

### Access

A FAQ/Help page was created to assist the user in navigating SAFR and to understand the data contained within.

The FAQ page can be accessed by clicking on one of the many  icons located throughout SAFR. The  icon will link to the FAQ appropriate for the section of the application the icon is located in.

The different sections in this pane can be expanded and contracted by clicking on the arrow next to the title. Some of the information has been provided in this User Guide but in some cases additional instructions and information is outlined. Additional instructions for overall site navigation and further explanation of what type of information is contained in the FAQ can be found in **Appendix A**.

### Frequently Asked Questions (FAQ) / Help

- ▷ [General FAQ and How-To:](#)
- ▷ [Project Information:](#)
- ▷ [Data Layers Available:](#)
- ▷ [Viewing Structure Data:](#)
- ▷ [Exporting an Image:](#)
- ▷ [Downloading Data:](#)
- ▷ [Property Information:](#)
- ▷ [Flood Risk Information:](#)
- ▷ [Survey Information:](#)

### Contact Information:

For any questions please contact the Illinois State Water Survey Mitigation group at [mitigation@isws.illinois.edu](mailto:mitigation@isws.illinois.edu)

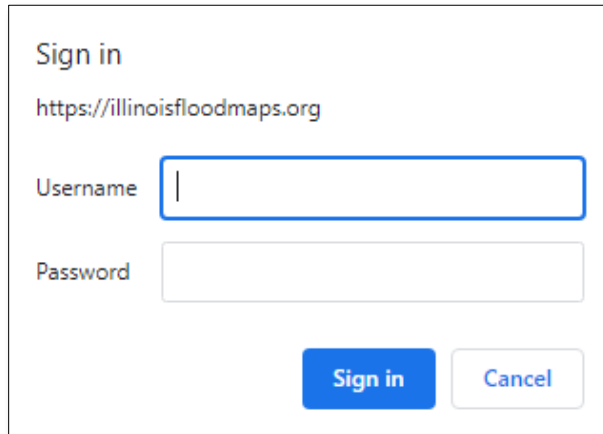
Please reach out if there are any suggested changes to this User Guide, the step-by-step instructions in Appendix A, the instructional video, the SAFR website or want any additional information added to the FAQ page.

## Appendix A – SAFR Walkthrough

To access SAFR, use the link below:

<https://go.illinois.edu/SAFR>

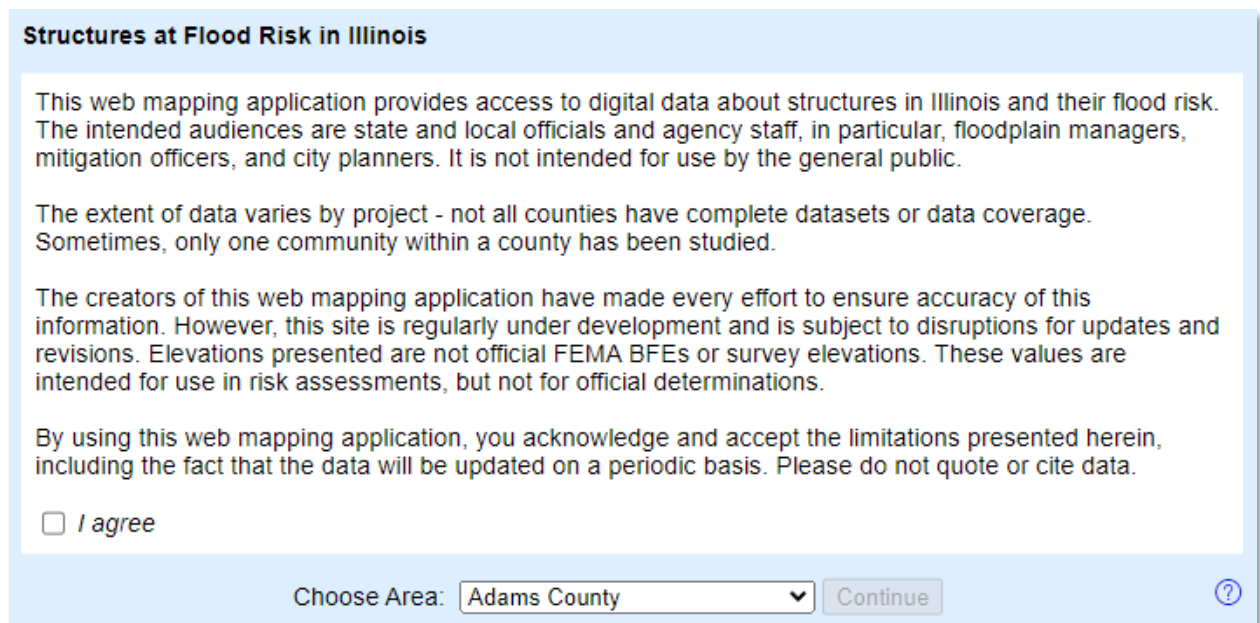
A dialog box will pop up asking for a Username and Password.



The image shows a 'Sign in' dialog box with the URL 'https://illinoisfloodmaps.org'. It contains two input fields: 'Username' and 'Password'. Below the fields are two buttons: 'Sign in' (blue) and 'Cancel' (white with blue border).

Use the Username and Password that have been provided. Username and Password can be requested by emailing the Illinois State Water Survey at [mitigation@isws.illinois.edu](mailto:mitigation@isws.illinois.edu).

After entering the username and password a splash screen will appear showing a disclaimer and giving the option to choose the area of interest. Areas of interest are generally sorted by the counties that data hosted on SAFR is located in. This does not mean that there is data for the entire county as most projects only cover a part of the county, such as the Mississippi or Illinois Rivers. Agree to the disclaimer by checking the box and choose the area of interest from the dropdown menu. Click continue to access SAFR.



The image shows a disclaimer splash screen titled 'Structures at Flood Risk in Illinois'. The text reads: 'This web mapping application provides access to digital data about structures in Illinois and their flood risk. The intended audiences are state and local officials and agency staff, in particular, floodplain managers, mitigation officers, and city planners. It is not intended for use by the general public. The extent of data varies by project - not all counties have complete datasets or data coverage. Sometimes, only one community within a county has been studied. The creators of this web mapping application have made every effort to ensure accuracy of this information. However, this site is regularly under development and is subject to disruptions for updates and revisions. Elevations presented are not official FEMA BFEs or survey elevations. These values are intended for use in risk assessments, but not for official determinations. By using this web mapping application, you acknowledge and accept the limitations presented herein, including the fact that the data will be updated on a periodic basis. Please do not quote or cite data.' Below the text is a checkbox labeled 'I agree'. At the bottom, there is a 'Choose Area:' dropdown menu with 'Adams County' selected, a 'Continue' button, and a help icon (question mark in a circle).


All other projects will still be visible and accessible by panning around the map.

## Navigation

Like most popular webmap applications, panning the map can be accomplished by clicking and holding the mouse button down while moving the mouse.

Zooming in and out on the map can be done by scrolling the mouse wheel forward and back. The Zoom Tool in the upper left can also be used.



The  symbol is located throughout the website. This icon links you directly to the specific FAQ related to the section being navigated. This icon can be clicked any time to get further information about the website, the data, or how to navigate the site.

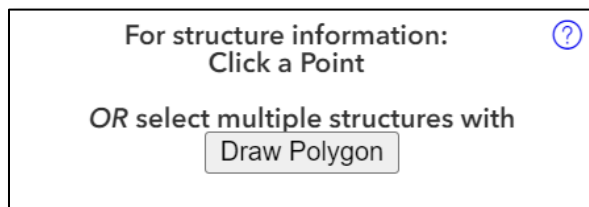
Find address or place 

To find a specific location using an address, use the search bar on the left side of the screen. The search bar will offer suggestions as an address is typed in. Either click on one of the suggestions or hit the Enter key and the map will zoom and pan to the structure at that address.

## Selecting a Structure

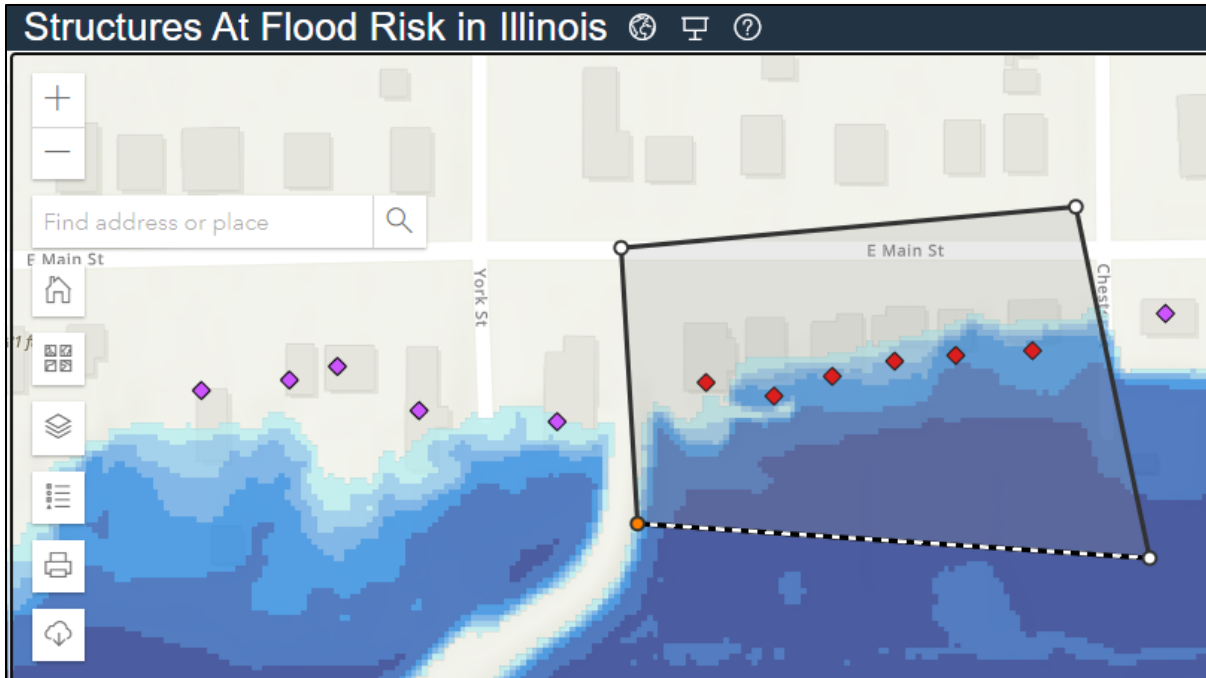
To select a structure based on its location on the map, navigate to the area of interest and click on the structure point of interest.

To select multiple structures at one time, click on the “Draw Polygon” button in the structure information pane at the upper right corner of the screen.



After the button has been clicked, the structure information pane will disappear, and the mouse arrow will change to a crosshair. Using this new mouse crosshair, single-click on the map to draw a box around the structures of interest. Double-click the mouse button to complete the selection.

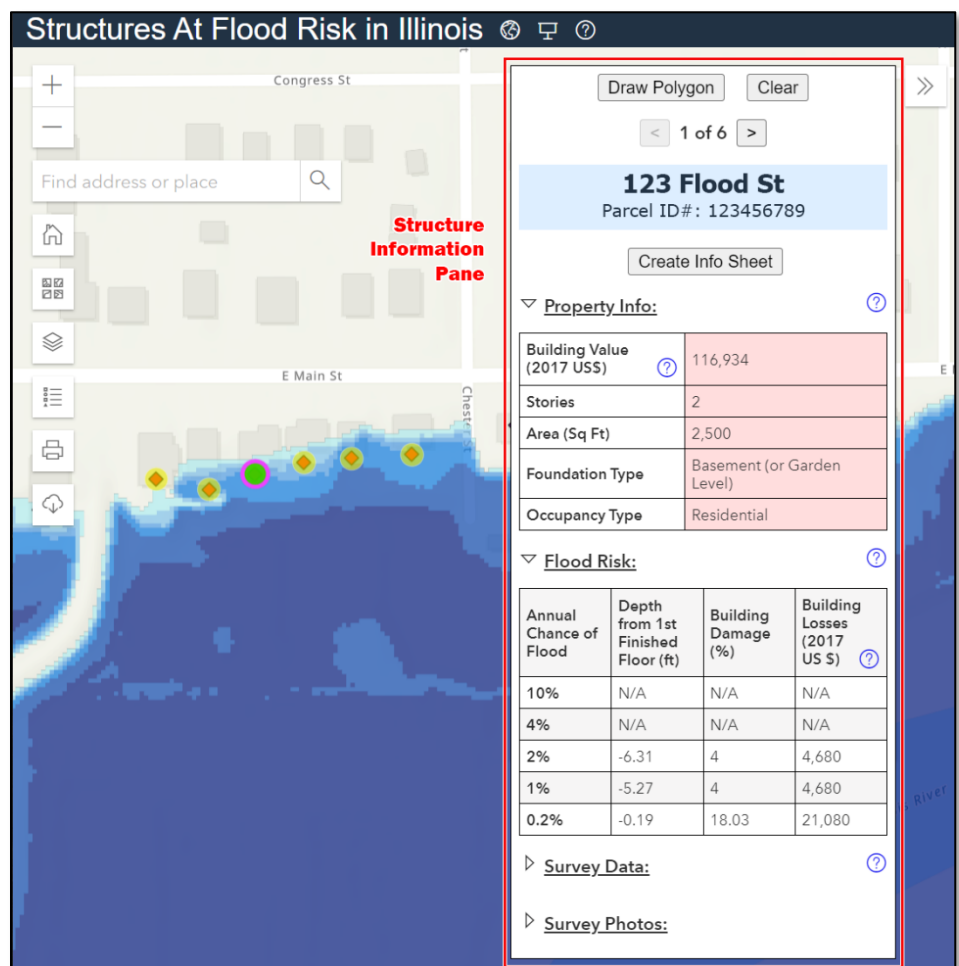




### Using Structure Information Pane

Once the selection is done, the selected structures will be highlighted yellow. The structure information pane will pop up on the right side of the screen. The structure information pane contains relevant information about the selected structure. The different sections in this pane can be expanded and contracted by clicking on the arrow next to the title.

In the example to the right, six structures have been selected. Information on the selected structures can be browsed by clicking on the left or right arrow buttons located above the address.



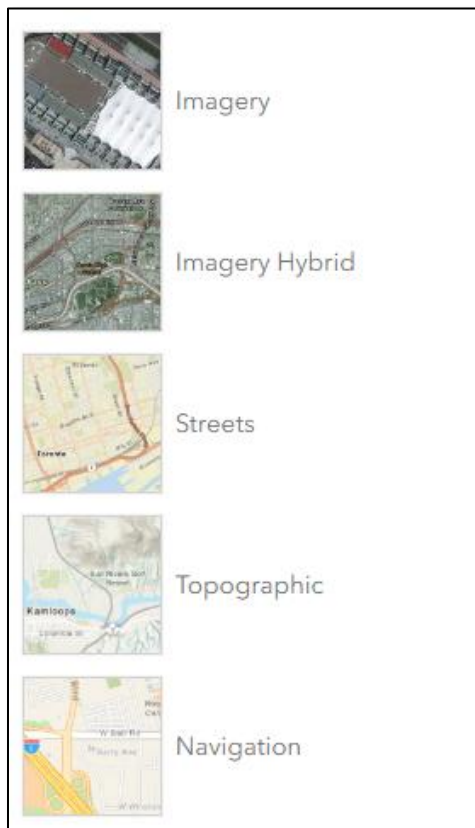
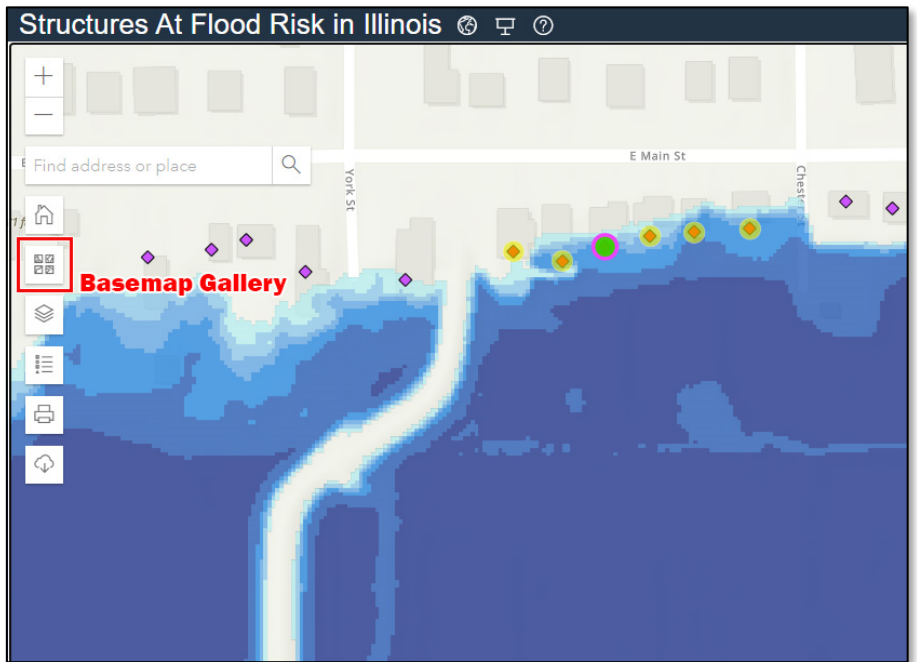
If a new selection needs to be made, you can click the “Draw Polygon” button at the top of the structure information pane and repeat the process above. The previous selection will be cleared. Clicking the “Clear” button at the top of the structure information pane will also clear out the selection.

### Changing the Basemap

A basemap is the map that is shown in the background of SAFR. Common examples include:

- Aerial photography
- Street Maps
- Topographical Maps

There are many basemaps to choose from in SAFR. Most of these are a combination of the three examples above (aerial photo with streets, Topography with streets, etc...) and many include building footprints.



To access the different basemaps, click the “Basemap Gallery” icon on the left side of the screen.

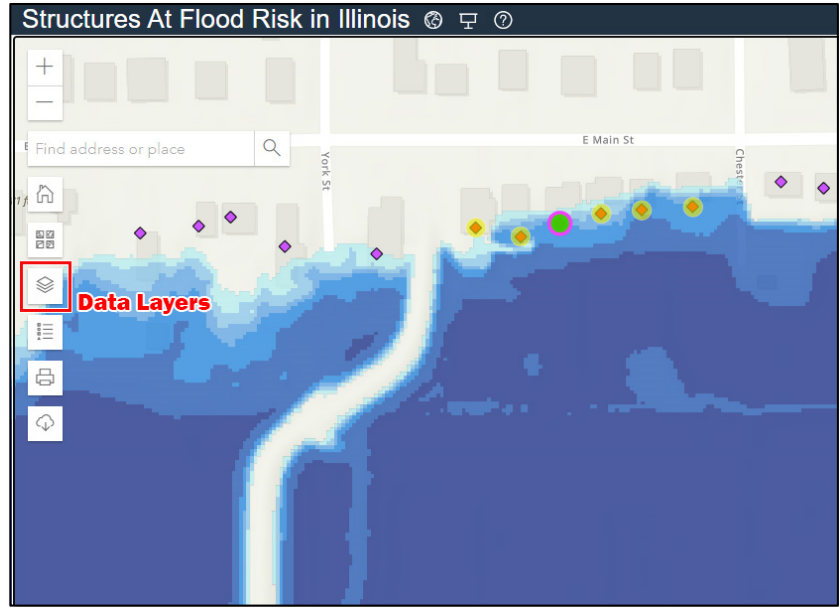
Once clicked, a list of basemaps will pop up showing all the available options. Clicking on the options will change the background of SAFR. The list will remain active so the user can feel free to browse until they find the basemap that appeals to them. Use the scroll bar on the right of the list to view all of the available basemap options.



To make the basemap list disappear, click on the basemap gallery icon which will be located to the top left of the list. The icon will now be displayed as two arrows pointing left as seen in the example to the left of this sentence. This is true of all of the following icons below.

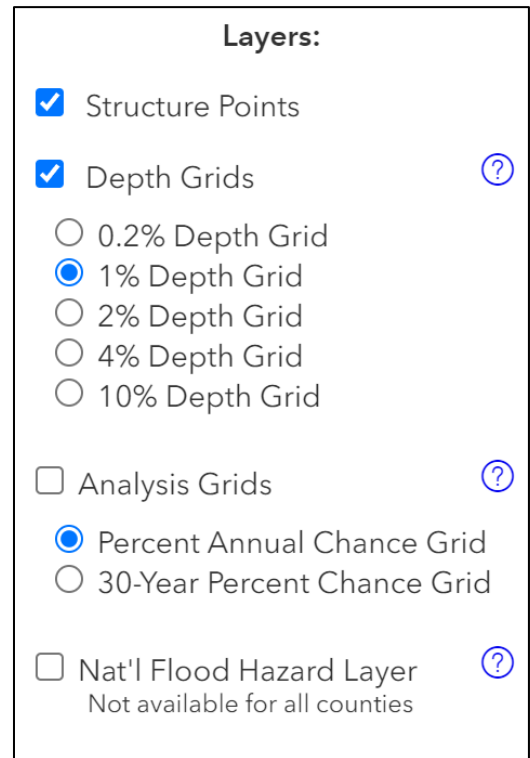
## Selecting Data Layers

Several different data layers can be displayed on top of the basemap selected in the previous step.

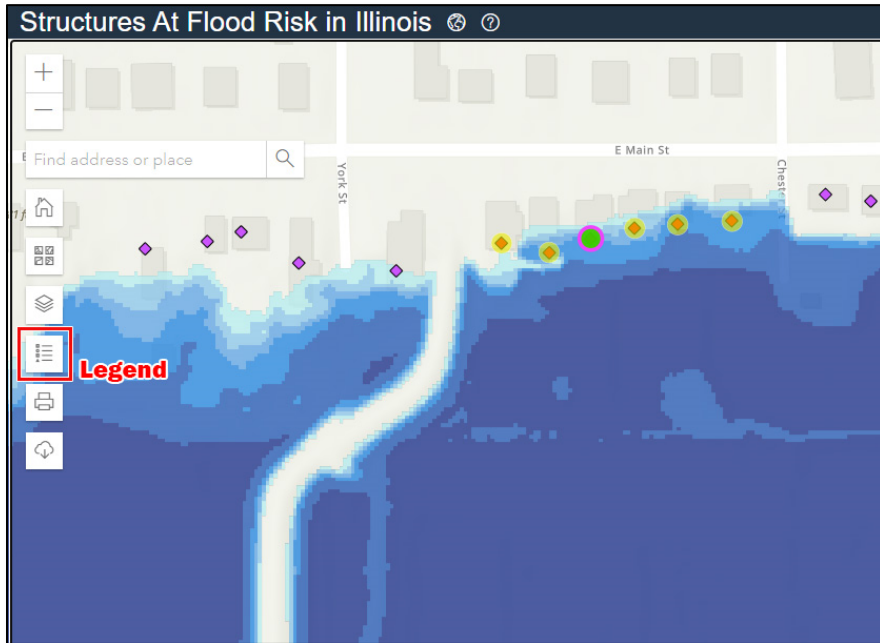


Data Layer Options include:

- Structure Points
  - Structures analyzed in the Flood Risk Assessments
- Flood Depth Grids
  - Toggle the depth grid button and then select a grid of interest. You can only select one of these grids at a time.
- Analysis Grids
  - Percent Annual Chance Grid
    - Shows the percent chance of flooding at a given point in any given year
  - 30-Year Percent Chance Grid
    - Represents the percent chance of flooding at least one time during a 30-year period for a given location within the mapped floodplain
- National Flood Hazard Layer (NFHL)
  - Shows data from the NFHL which is the Federal Emergency Management Agency (FEMA)'s digital database containing flood hazard mapping data from FEMA's National Flood Insurance Program (NFIP). This is the data shown on FEMA Flood Insurance Rate Maps (FIRMs).
  - Data visible includes:
    - FEMA regulatory floodplains
    - FEMA regulatory cross sections
      - Displays 1% annual chance (100-year) flood surface elevations in feet.
    - FIRM Panel information
  - If the NFHL data is not visible, zoom in and it will appear at the proper extent.



## Viewing the Legend



The legend displays and describes the symbology used for the data layers currently displayed on SAFR. This means that the legend will change based on the selections made in the Data Layers box. If there are more layers displayed than fit in the legend, the scroll bar on the right side of the Legend box can be used to scroll down and see all layers.

**Structure Points**

- ◆ Both Survey and Analysis
- ◆ Survey Only
- ◆ Analysis Only

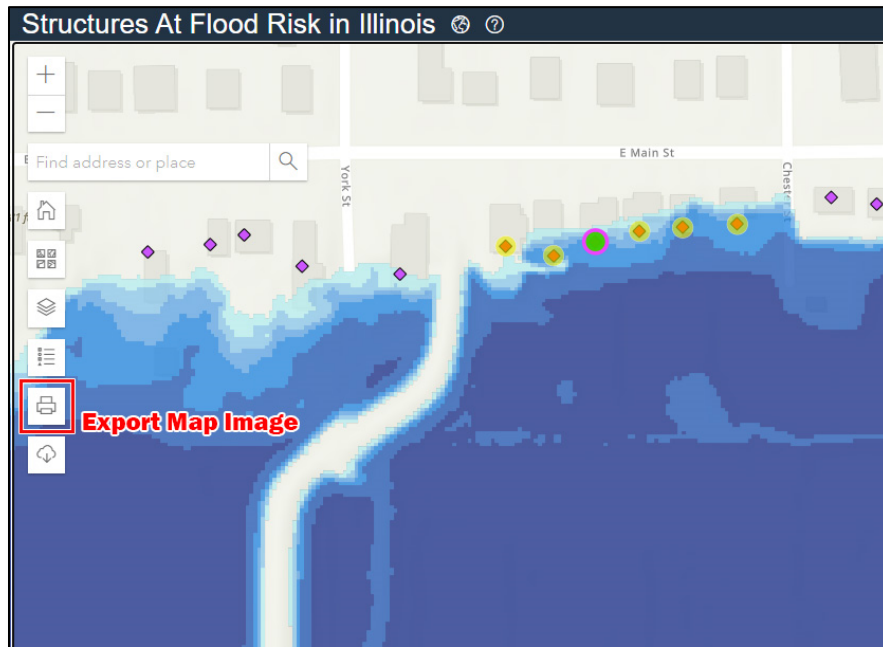
**Depth Grids**

- > 15.0
- 10.1 - 15
- 5.1 - 10
- 3.1 - 5
- 2.1 - 3
- 1.1 - 2
- ≤ 1.0

**National Flood Hazard Layer**

- 
- Limit Lines
- SFHA / Flood Zone Boundary

## Export Map Image



Creates and exports a map using the current extent and data layers that are being viewed in the browser. Options are available to title the map, choose a page size, and choose a file type. Options are listed below:

- Page Size:
  - 8" x 6" Landscape
  - 6" x 8" Portrait
  - 11" x 8.5" Landscape
  - 8.5" x 11" Portrait
- Image Format:
  - PNG
  - JPG
  - PDF

### Export Map Image ?


Title:

Page Size:  
 ▾

Format:  ▾

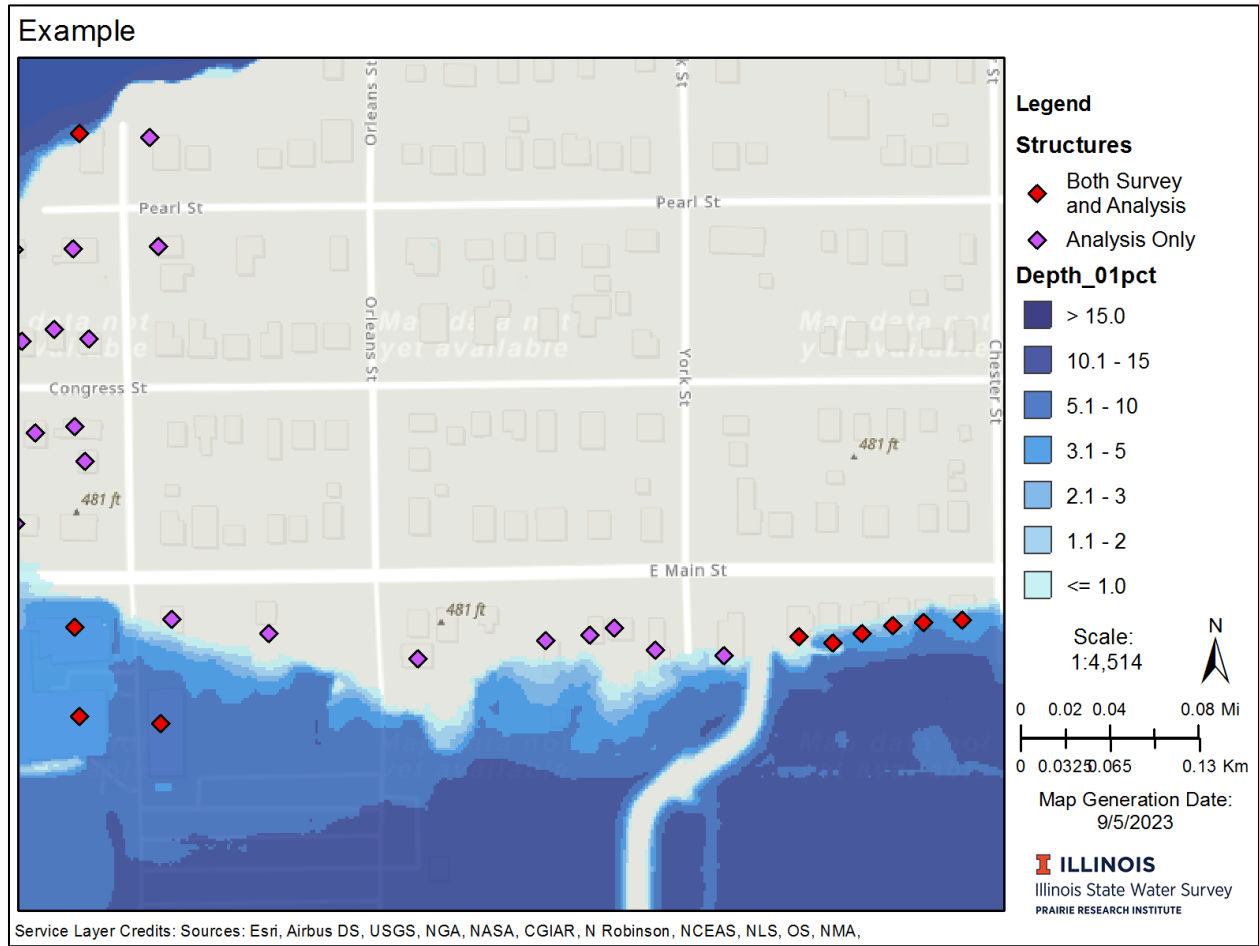
---

**Exported Maps**

 [Example.png](#)

Once the preferred options have been selected, click the “Start Image Export” button and a link will be generated at the bottom of the pane under the “Exported Maps” label. Click the link to see the generated map.

The generated map includes a legend detailing the data displayed. This is a great way to create a quick snapshot that can be used to display and communicate the data contained within the SAFR application.



If PNG or JPG format options were chosen, the map can be saved by right-clicking and selecting “Save Image As...”, or by dragging and dropping the image onto the desktop. If the PDF option was chosen, the map can be saved using the download option in the upper right of the browser window (see examples under the “Create Info Sheet” section below).

## Create Info Sheet

Draw Polygon Clear

< 1 of 6 >

### 123 Flood St

Parcel ID#: 123456789

Create Info Sheet

▼ Property Info: ?

Building Value (2019 US\$) <span style="float: right;">?</span>	116,934
Stories	2
Area (Sq Ft)	2,500
Foundation Type	Basement (or Garden Level)
Occupancy Type	Residential

▼ Flood Risk: ?

Annual Chance of Flood	Depth from 1st Finished Floor (ft)	Building Damage (%)	Building Losses (2019 US \$) <span style="float: right;">?</span>
10%	N/A	N/A	N/A
4%	N/A	N/A	N/A
2%	-6.31	4	4,680
1%	-5.27	4	4,680
0.2%	-0.19	18.03	21,080

▷ Survey Data: ?

▷ Survey Photos:

To create an Info Sheet, click on the “Create Info Sheet” button located under the address on the structure information pane. Once the button is clicked, an info sheet will be generated. This process can take several seconds. Once complete, an Info Sheet link will be displayed in blue as per the example below. Click on this link to display the info sheet in the internet browser.

Draw Polygon Clear

< 1 of 6 >

### 123 Flood St

Parcel ID#: 123456789

Info Sheet Redo Info Sheet

▼ Property Info: ?

Please note that the map display consists of a screenshot taken from where the screen is centered at the time the Info Sheet is created. If the extent needs to be changed to center on the selected structure, just pan the screen to the desired extent and click the “Redo Info Sheet” button. Once the Info Sheet is displayed, it can be downloaded as a PDF using the download button in the internet browser.

Below are examples of how to download the Info Sheet for the three most popular Windows browsers. The download button is circled in red. The location of these buttons may change based on any customizations made on the browser.

**Chrome:** Download button located in the upper right corner of the screen.



**Microsoft Edge:** Download button by default is in the upper right corner of the screen.



**Mozilla Firefox:** Download button by default is in the upper right corner of the screen.

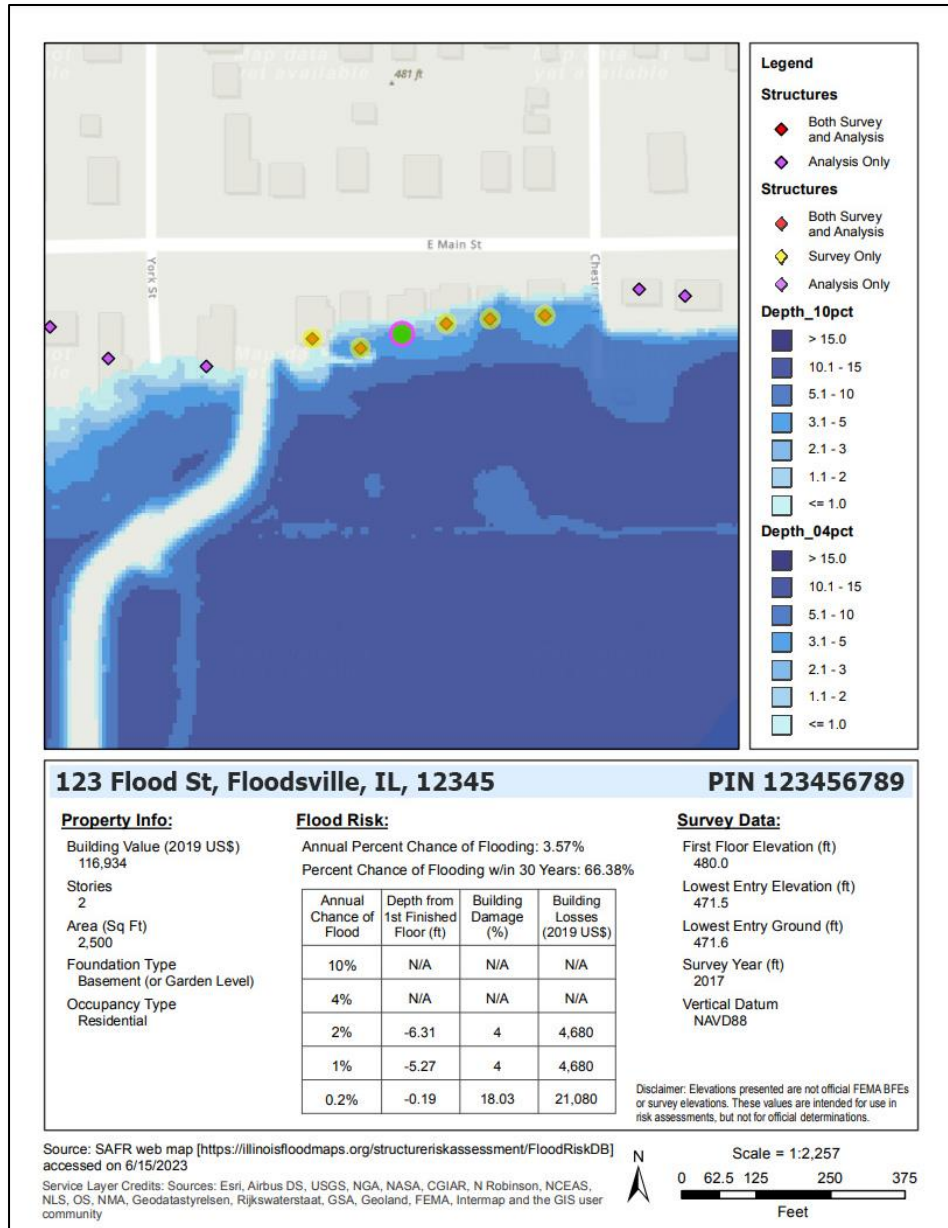


The Info Sheet is similar to the Export Map Image, the difference being that detailed information on a selected structure is included.

As can be seen in the example to the right, this additional information includes:

- Property Information
- Flood Risk Information
- Survey Data

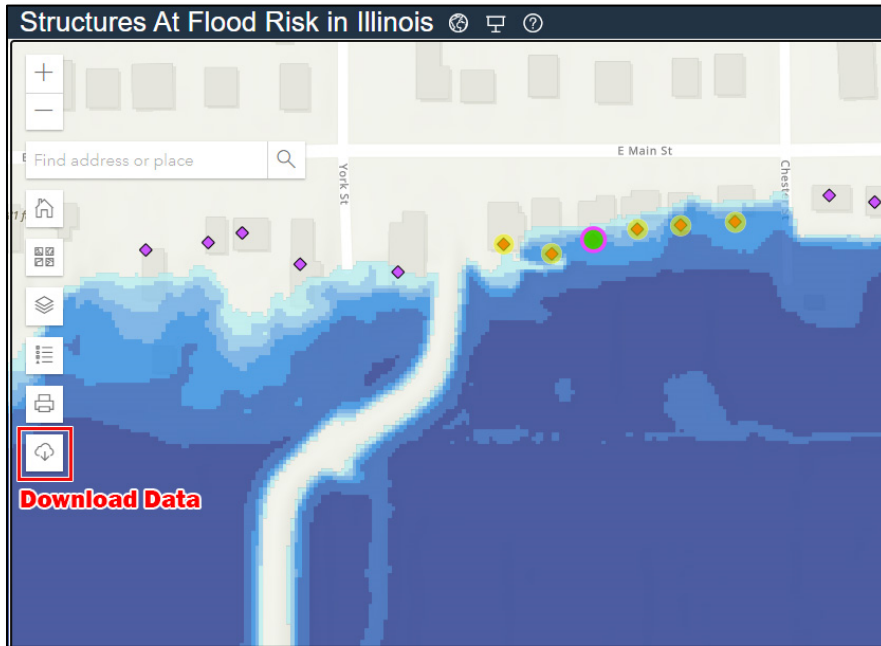
Like the Export Map Image, the map legend will show the data layers that were displayed on SAFR when the Info Sheet was created.



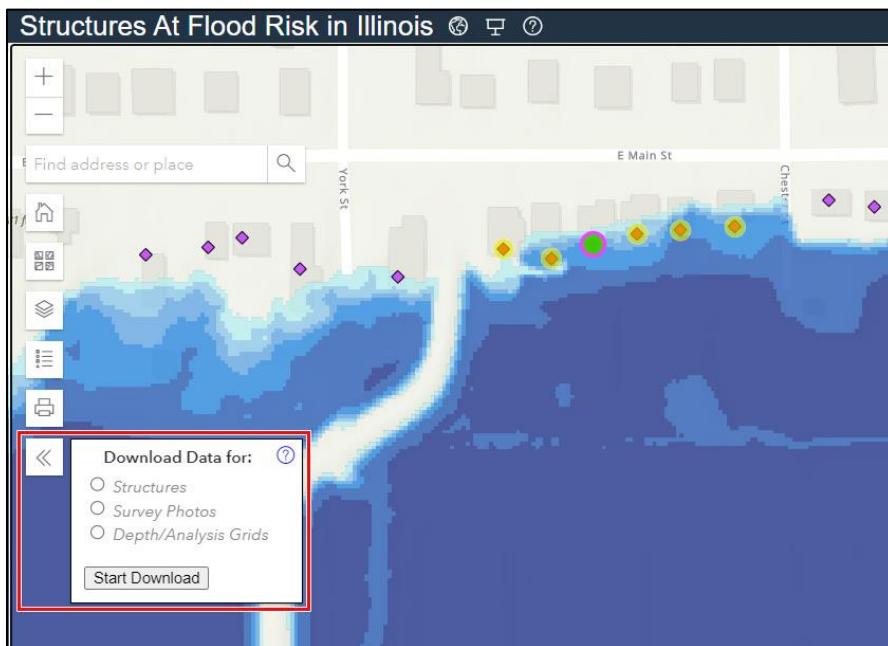


## Downloading Data

Flood risk data can be retrieved from the site by using the Download Data button circled in red in the screenshot below.



Once the Download Data icon is clicked, the download pane will be displayed showing available options for the data download. This consists of three options shown in the screenshot below. Details on these options are included on the following pages.



## Structures

**Project Database:** Downloads all points in the selected Project Area  
**Selected Structures:** Only the structures that are currently selected in the SAFR web map will be downloaded.

Download Data for: ?

Structures

Project Database ▾

Adams County ▾

GIS Points (.shp) ▾

Survey Photos

Depth/Analysis Grids

Start Download

**Project Area:** Clicking on this drop down will produce a list of the project areas where structure data is available for download if **Project Database** is selected in the drop down above.

Download Data for: ?

Structures

Project Database ▾

Adams County ▾

GIS Points (.shp) ▾

Survey Photos

Depth/Analysis Grids

Start Download

**Data Format:** Clicking on this drop down allows the user to select the format of the structure data being downloaded. Available formats are as follows:

**GIS Points (.shp):** ESRI GIS Shapefile

**GIS Points (.gdb):** ESRI GIS File Geodatabase

**CSV File (.csv):** Comma-Separated Values .csv file (Compatible with Microsoft Excel)

Download Data for: ?

Structures

Project Database ▾

Adams County ▾

GIS Points (.shp) ▾

Survey Photos

Depth/Analysis Grids

Start Download

All of these download options includes a Data\_Dictionary PDF which contains descriptions for each of the data fields.

## Survey Photos

Includes photos of surveyed structures. Includes the front of the structures, and in some projects includes a photo of the Low Entry Elevation as well.

Downloads are for the Project Database only, consisting of all of the photos for the selected project area.

Download Data for: ?

Structures

Survey Photos

Project Database ▾

Adams County ▾

JPG Format (.jpg) ▾

Depth/Analysis Grids

Start Download

**Project Area:** Clicking on this drop down will produce a list of the project areas where structure photos are available.

Download Data for: ?

Structures

Survey Photos

Project Database ▾

Adams County ▾

JPG Format (.jpg) ▾

Depth/Analysis Grids

Start Download

**Data Format:** Survey photos are available in .jpg format only.

Download Data for: ?

Structures

Survey Photos

Project Database ▾

Adams County ▾

JPG Format (.jpg) ▾

Depth/Analysis Grids

Start Download

## Depth/Analysis Grids

GIS Raster files associated with hosted FRA projects.

Rasters available for download:

- Flood Depth Grids
  - Estimated depth of analyzed flood events used in the flood risk assessment. Typically consists of the 10%, 4%, 2%, 1%, and 0.2% annual chance flood events.
- Percent Annual Chance of Flooding
  - Percent chance of flooding at a given point in any given year.
- Percent Chance of Flooding over a 30-year period.
  - Percent chance of flooding at least one time during a 30-year period

Downloads are for the Project Database only, consisting of all of the Depth/Analysis Grids for the selected project area.

The screenshot shows the 'Download Data for:' panel with three radio button options: 'Structures', 'Survey Photos', and 'Depth/Analysis Grids'. The 'Depth/Analysis Grids' option is selected. Below the radio buttons are three dropdown menus: 'Project Database', 'Adams County', and 'GIS Format (.gdb)'. A red box highlights the 'Project Database' dropdown, with a red line connecting it to the explanatory text on the left. At the bottom of the panel is a 'Start Download' button.

**Project Area:** Clicking on this drop down will produce a list of the project areas where Depth/Analysis Grids are available.

The screenshot shows the 'Download Data for:' panel with the same three radio button options. The 'Depth/Analysis Grids' option is selected. The dropdown menus are 'Project Database', 'Adams County', and 'GIS Format (.gdb)'. A red box highlights the 'Adams County' dropdown, with a red line connecting it to the explanatory text on the left. At the bottom of the panel is a 'Start Download' button.



**Data Format:** Depth/Analysis Grids are only available in Esri File Geodatabase format.

The screenshot shows the 'Download Data for:' panel with the same three radio button options. The 'Depth/Analysis Grids' option is selected. The dropdown menus are 'Project Database', 'Adams County', and 'GIS Format (.gdb)'. A red box highlights the 'GIS Format (.gdb)' dropdown, with a red line connecting it to the explanatory text on the left. At the bottom of the panel is a 'Start Download' button.

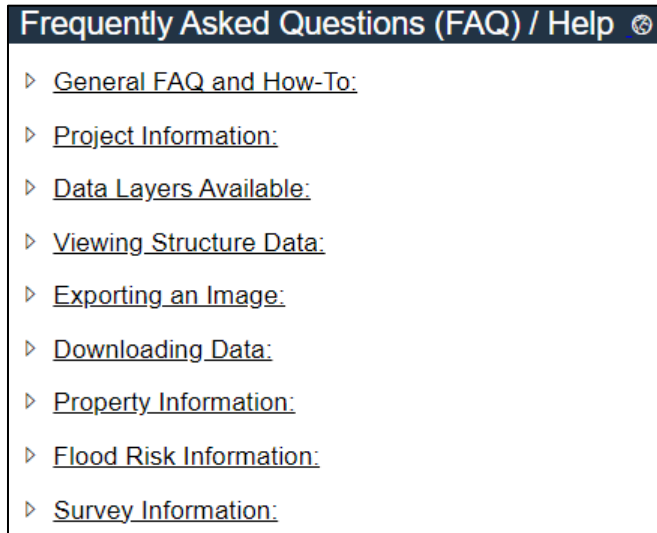
Once the desired options are set, click the “Start Download” button to download the selected data.

## Viewing the FAQ

A FAQ/Help page was created to assist the user in navigating SAFR and to understand the data contained within.

The FAQ page can be accessed by clicking on one of the many  icons located throughout SAFR. The  icon will link to the FAQ appropriate for the section of the application the icon is located in.

The different sections in this pane can be expanded and contracted by clicking on the arrow next to the title. Some of the information has been provided in this User Guide but in some cases additional instructions and information is outlined in the FAQ.



## General FAQ and How-To

Provides additional information about some of the information referenced in SAFR. It also contains some detailed instructions for navigating the site.

## Project Information

When selecting the Project Information section in the FAQ page the following summary information for each project hosted on SAFR can be viewed:

- Year for \$
  - The year of the monetary values of the project in US Dollars.
- Survey Year
  - Year the structure surveys were performed.
- LiDAR Year
  - Year of the LiDAR topographical data used to create the project flood depth and analysis grids.
- Link to Report(s)
  - A link to the reports created for each project if available. The report link also includes map books for each area that show inundation mapping for the various storm events used in the data analysis.

## Data Layers Available

Provides additional information about the various data layers viewable on SAFR and how to navigate those layers.

## Viewing Structure Data

Contains additional instructions about how to select structures for viewing in the SAFR database.

**Exporting an Image and Downloading Data**

Contains additional instructions about exporting either an individual map of a selected area or the structure information sheet in PDF format.

**Downloading Data**

Includes instructions and additional data format information for downloading the data contained in the SAFR website geodatabase.

**Property Information**

Describes the coding used to denote where some of the main input data originated or was determined.

**Flood Risk Information and Survey Information**

Provides some definitions and assumptions used in the flood risk analysis used to develop SAFR. Survey data definitions are also provided.

## Appendix B: Definitions

<b>What is the National Flood Hazard Layer (NFHL)?</b>	
<p>The NFHL is the Federal Emergency Management Agency (FEMA)'s digital database containing flood hazard mapping data from FEMA's National Flood Insurance Program (NFIP).</p> <p>For more information, see the FEMA NFHL webpage:  <a href="https://www.fema.gov/national-flood-hazard-layer-nfhl">https://www.fema.gov/national-flood-hazard-layer-nfhl</a></p>	

<b>Base Flood</b>	<p>The flood having a 1% probability of being equaled or exceeded in any given year. This is the regulatory standard also referred to as the "100-year flood." The base flood is the national standard used by the National Flood Insurance Program (NFIP) and all Federal agencies for the purposes of requiring the purchase of flood insurance and regulating new development. Base Flood Elevations (BFEs) are typically shown on Flood Insurance Rate Maps (FIRMs) for Zone AE.</p>
<b>Special Flood Hazard Area (SFHA)</b>	<p>The land area covered by the floodwaters of the base flood is the Special Flood Hazard Area (SFHA) on NFIP maps. The SFHA is the area where the NFIP's floodplain management regulations must be enforced and the area where the mandatory purchase of flood insurance applies.</p>
<b>Annual Chance of Flood</b>	<p>The likelihood of a flood occurring during a single year.</p>

<b>Building Value</b>	<p>Estimate of the market value of the building. Building descriptions are based on the best available data, typically from an assessor's office. When assessor's data is not available, Building Value is estimated using R.S. Means construction cost square foot values taken from the Hazus building inventory.</p>
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<b>Annual Chance of Flood</b>	<p>The likelihood of a flood occurring during one year.</p>
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<b>Finished Floor</b>	The lowest floor with 'livable' space, i.e. living room or bedroom.
<b>Building Losses</b>	Estimated losses in U.S. Dollars to the building only. In addition to Building losses, Content and Inventory losses are available for download via the web mapping application.

<b>First Floor Elevation</b>	This is the elevation of the top of the lowest finished floor above grade in a building.
<b>Finished Floor</b>	The lowest floor with 'livable' space, i.e., living room or bedroom.
<b>Lowest Entry Elevation</b>	The elevation of the lowest spot where water could enter the structure, i.e. basement windows, outdoor stairway to basement, or door entry.
<b>Lowest Entry Ground</b>	Lowest exterior ground surveyed elevation of the structure where water will meet the foundation.